$$\phi\left(\rho - \frac{d}{d\pi}\right).$$

The very general theorems already stated may be extended to any number of systems of variables connected by equations, such as define the mutual action of π and ρ. Thus, if

$$\rho\pi = \pi\rho + 1,$$

and

$$\rho_1\pi_1 = \pi_1\rho_1 + 1,$$

the symbols being otherwise mutually commutative, we shall have

$$f(\rho, \rho_1)\,\phi\,(\pi, \pi_1) = e^{\frac{d}{d\pi}\frac{d}{d\rho} + \frac{d}{d\pi_1}\frac{d}{d\rho_1}}\phi\,(\pi, \pi_1) f(\rho, \rho_1),$$

and so on for any number of pairs of symbols.

Again, as a generalization of the formula (15), we shall find, if ψ denotes a function of π and π_1,

$$f\left(\rho + \frac{d\psi}{d\pi},\ \rho_1 + \frac{d\psi}{d\pi_1}\right) = e^{-\psi} f(\rho, \rho_1)\, e^{\psi}.$$

And, analogous to (16),

$$f\left(\pi + \frac{d\psi}{d\rho},\ \pi_1 + \frac{d\psi}{d\rho_1}\right) = e^{\psi} f(\pi, \pi_1)\, e^{-\psi};$$

ψ denoting in this case a function of ρ and ρ_1. Writing x and y for π and π_1, and $\frac{d}{dx}$ and $\frac{d}{dy}$ for ρ and ρ_1 in these latter formulæ, we obtain results of considerable importance, the statement and discussion of which is reserved for the concluding part of this Paper.

The Secretary read a paper by W. H. Harvey, M.D., on the Marine Botany of Western Australia.

Robert Ball, LL.D., drew the attention of the Academy to the fact, that in the celebrated statue, known as the Dying